



AMENDMENTS TO THE CLAIMS

1. (currently amended) A chemical device for depositing conductive polymer on complex porous cross-linked foam, felt or woven material structures to impart electrical conductivity to said structures, characterized in that it includes one or more reactors in which the various conductive activation treatment steps are effected within said structures, throughout the thickness thereof, on the surface of each of their fibres or meshes, without clogging their pores, to impart to them a continuous electrical conductivity over the whole of their developed surface, and in that it enables treatment of structures of varying thicknesses and shapes, in particular in the form of blocks or rolls (cylinders formed by a rolled strip), throughout their volumes, and without unrolling them in the case of rolls, the various treatment solutions being passed through said blocks or rolls, the device including at least one reactor equipped with a hollow, perforated and rotatable core onto which the porous structure block or roll to be treated is fitted, said core being used to inject the treatment solutions used into the block or roll and/or to aspirate it therefrom and/or to rotate the block or roll on itself in order to homogenise the diffusion of the fluids within it and/or to expel said fluids centrifugally.
2. (currently amended) A device according to claim 1, wherein [characterized in that] it includes means for carrying out the following conductive activation treatment steps on the blocks or rolls, these various steps being carried out one after the other throughout the volume of the structure to be treated and the various treatment fluids being passed through said blocks or rolls:
 - optional cleaning and/or rinsing of the basic structure,
 - optional draining, wringing, centrifuging and/or drying,

- surface preparation pre-treatment,
- optional rinsing, draining, wringing, centrifuging and/or drying,
- deposition of a monomer,
- optional rinsing, draining, wringing, centrifuging and/or drying,
- oxidation of the monomer, leading to its polymerisation to yield an electrically conductive polymer, and doping thereof, and
- optional rinsing, draining, wringing, centrifuging and/or drying.

3. canceled

4. (currently amended) A device according to claim 1, wherein [characterized in that] it includes at least one reactor equipped with a hollow, perforated and rotatable core onto which the porous structure block or roll to be treated is fitted, said core being used to inject the treatment solutions used into the block or roll and/or to aspirate it therefrom and/or to rotate the block or roll on itself in order to homogenise the diffusion of the fluids within it and/or to expel said fluids centrifugally, and

flanges and a perforated rack fixed to the core contribute to supporting the block or roll around the core.

5. (currently amended) A device according to claim 1, wherein [characterized in that] it includes at least one reactor equipped with a hollow, perforated and rotatable core onto which the porous structure block or roll to be treated is fitted, said core being used to inject the treatment solutions used into the block or roll and/or to aspirate it therefrom and/or

to rotate the block or roll on itself in order to homogenise the diffusion of the fluids within it and/or to expel said fluids centrifugally;

flanges and a perforated rack fixed to the core contribute to supporting the block or roll around the core, and

a porous material is disposed between the block or roll to be treated and the rack and/or the flanges.

6. (currently amended) A device according to claim 1, wherein [characterized in that] it includes tanks for storing the solutions used for the treatment, which tanks are connected to the reactor by pipes for transferring each solution to the reactor and returning it to its specific tank.

7. (currently amended) A device according to claim 1, wherein [characterized in that] it includes tanks for storing the solutions used for the treatment, which tanks are connected to the reactor by pipes for transferring each solution to the reactor and returning it to its specific tank, and

some or all of the storage tanks are equipped with stirrer systems and/or temperature regulation systems and/or metering systems and/or systems for continuously or intermittently maintaining the concentrations of the solutions.

8. (currently amended) A device according to claim 1, wherein [characterized in that] the fluid supply and evacuation circuits can be used for the forced passage of treatment gases or gas mixtures, and in particular for the passage of air.

9. (currently amended) A device according to claim [1] 4, [characterised in that] wherein the perforated rack and/or the flanges can be used to compress the block or roll of structure to be treated to wring it out.

10. (new) A device according to claim 5, wherein the perforated rack and/or the flanges can be used to compress the block or roll of structure to be treated to wring it out.